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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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277	7590	05/16/2006	EXAMINER	
PRICE HENEVELD COOPER DEWITT & LITTON, LLP			WILHELM, TIMOTHY	
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GRAND RAPIDS, MI 49501			3616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/757,897	Applicant(s) MOLITOR, MARK	
	Examiner Timothy D. Wilhelm	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26,28 is/are rejected.
- 7) ☒ Claim(s) 27 and 29-31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-15-2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 8 and 9 are objected to because of the following informalities: claim 8 refers to bushings in the third control arm that are not claimed until claim 9. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Pierce (6,328,322). Pierce ('22) discloses a vehicle suspension assembly 40, comprising a first control arm 54 having a first end 56 and a second end 58, wherein the first end 56 of the first control arm 54 is adapted to be pivotally coupled to a first frame member 16 of a vehicle, and wherein the second end 58 of the first control arm 54 is adapted to be pivotally coupled to an axle 24 of the vehicle, a second control arm 54' having a first end

Art Unit: 3616

56' and a second end 58', wherein the first end 56' of the second control arm 54' is adapted to be pivotally coupled to a second frame member 16' of the vehicle, and wherein the second end 58' of the second control arm 54' is adapted to be pivotally coupled to the axle 24 of the vehicle, a rigid, tube-shaped first torsional member 80 coupled to the first control arm 54 along a length of the first control arm 54, and coupled to the second control arm 54' along a length of the second control arm 54', and a third control arm 90 having a first end and a second end, wherein the first end of the third control arm 90 is adapted to be pivotally coupled to a third frame member of the vehicle, and wherein the second end of the third control arm is adapted to be pivotally coupled to at least a select one of the second frame member 16' and the axle 24 of the vehicle.

3. With regard to claims 4-6, Pierce ('22) discloses the vehicle suspension assembly 24 described above wherein the first end 56 of the first control arm 54 is adapted to be pivotally coupled with a first linkage member 46 that is fixedly attached to and extends downwardly from the first frame member 16, the first end 56' of the second control arm 54' is adapted to be pivotally coupled with a second linkage member 46' that is fixedly attached to and extends downwardly from the second frame member 16', and the second end of the third control arm 90 is adapted to be pivotally coupled with a third linkage member 92 that is fixedly attached to and extends upwardly from the axle 24.

4. Claims 1-5, 7-9, 11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Pierce (5,924,712). Pierce ('12) discloses a vehicle suspension assembly comprising four control arms, first and second control arms 24 being pivotally

Art Unit: 3616

coupled at a first end to first frame member 12 and second frame member 14 respectively and at a second end to the axle 44, and third and fourth control arms 22 being pivotally coupled at a first end to third frame member 16 and at a second end to the axle 44, a tube-shaped, rigid first torsional member fixedly attached to the first ends of first and second control arms 24, and a rigid second torsional member fixedly attached to the first ends of third and fourth control arms 22. The first end of the first control arm 24 is adapted to be pivotally coupled with a first linkage member that is fixedly attached to and extends downwardly from the first frame member 12 and the first end of the second control arm 24 is adapted to be pivotally coupled with a second linkage member 18 that is fixedly attached to and extends downwardly from the second frame member 14. Regarding claim 11 the vehicle suspension assembly of Pierce ('12) further comprises a first pneumatic suspension bag adapted to be positioned between the first frame member and the axle, and a second pneumatic suspension bag 38 adapted to be positioned between the second frame member 14 and the axle 44.

5. With regard to claims 7-9, the first and second ends of first, second, third and fourth control arms 24,24,22,22 each include an elastically deformable bushing 26,28,32,34 which each have an elongated aperture extending therethrough.

6. Claims 21-26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Pierce ('12). Pierce ('12) discloses a vehicle suspension assembly, comprising a first control arm 22 having a first end and the first control arm 22 is adapted to be pivotally coupled to a first frame member 12 of a vehicle, and wherein the second end of the first control arm is adapted to be pivotally coupled to an axle 44 of a vehicle, a second

Art Unit: 3616

control arm 24 having a first end and a second end, wherein the first end of the second control arm 24 is adapted to be pivotally coupled to the first frame member 12 of the vehicle, and wherein the second end of the second control 24 arm is adapted to be pivotally coupled to the axle 44 of the vehicle, a tube-shaped, rigid first torsional member 58 coupled to the first control arm 22 along a length of the first control arm 22, and coupled to the second control arm 24 by means of piece 18 along a length of the second control arm 24, and a third control 46 arm having a first end and a second end, wherein the first end of the third control arm is adapted to be pivotally coupled to a select one of the first frame member 12, a second frame member 16, and a third frame member 14 of the vehicle, and wherein the second end of the third control arm 46 is adapted to be pivotally coupled to the axle 44 of the vehicle. The third control arm 46 is positioned between the first 22 and second 24 control arms and is pivotably coupled with the first frame member 12. The first ends of the first 22 and second 24 control arms are adapted to be pivotally coupled with a first linkage member 18 that extends upwardly from the axle 44. The first and second ends of the first and second controls arms 22, 24 each include an elastically deformable bushing 26,28,32,34.

7. With regard to claim 28 the first end of the third control arm is adapted to be pivotably coupled to the second frame member 16 by means of first frame member 12 as a linking member, and further including a fourth control arm 22 having a first end and a second end, wherein the first end of the fourth control arm 22 is adapted to be pivotally coupled to the third frame member 14 of the vehicle, and wherein the second

Art Unit: 3616

end of the fourth control arm is adapted to be pivotally coupled to the axle 44 of the vehicle.

8. Claims 1, 4-6, 11, are rejected under 35 U.S.C. 102(e) as being anticipated by Dudding et al (6,851,689). Dudding et al disclose a vehicle suspension assembly 24, comprising a first control arm 28 having a first end and a second end, wherein the first end of the first control arm 28 is adapted to be pivotally coupled to a first frame member 20 of a vehicle, and wherein the second end of the first control arm 28 is adapted to be pivotally coupled to an axle 22 of the vehicle, a second control arm 28 having a first end and a second end, wherein the first end of the second control arm 28 is adapted to be pivotally coupled to a second frame member 20 of the vehicle, and wherein the second end of the second control arm 28 is adapted to be pivotally coupled to the axle 22 of the vehicle, a rigid first torsional member 32 coupled to the first control arm 28 along a length of the first control arm 28, and coupled to the second control arm 28 along a length of the second control arm 28, and a third control arm 212 (Fig. 11) having a first end and a second end, wherein the first end of the third control arm 212 is adapted to be pivotally coupled to a third frame member of the vehicle, and wherein the second end of the third control arm 212 is adapted to be pivotally coupled to at least a select one of the second frame member 220 and the axle 22 of the vehicle.

9. With regard to claims 4-6, Dudding et al disclose the vehicle suspension assembly 24 described above wherein the first end of the first control arm 28 is adapted to be pivotally coupled with a first linkage member 26 that is fixedly attached to and extends downwardly from the first frame member 20, the first end of the second control

arm 28 is adapted to be pivotally coupled with a second linkage member 26 that is fixedly attached to and extends downwardly from the second frame member 20, and the second ends of the third and fourth control arms 212, 214 are adapted to be pivotally coupled with a third linkage member 206 that is fixedly attached to and extends upwardly from the axle 22.

10. Regarding claim 11, Dudding et al further disclose a first pneumatic suspension bag 52 adapted to be positioned between the first frame member 20 and the axle 22, and a second pneumatic suspension bag 52 adapted to be positioned between the second frame member 20 and the axle 22.

11. Claims 1,18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Csordas et al (4,632,422). Csordas et al disclose a vehicle suspension assembly, comprising a first control arm 4 having a first end and a second end, wherein the first end of the first control arm 4 is adapted to be pivotally coupled to a first frame member 12 of a vehicle, and wherein the second end of the first control arm is adapted to be pivotally coupled to an axle 1 of the vehicle, a second control arm 4 having a first end and a second end, wherein the first end of the second control arm 4 is adapted to be pivotally coupled to a second frame member 12 of the vehicle, and wherein the second end of the second control arm 4 is adapted to be pivotally coupled to the axle 1 of the vehicle, a rigid first torsional member 27 pivotably coupled to the first control arm 4 along a length of the first control arm 4, and pivotably coupled to the second control arm 4 along a length of the second control arm 4, and a third control arm 21 having a first end and a second end, wherein the first end of the third control arm 21 is adapted to be

pivotally coupled to a third frame member 12 of the vehicle, and wherein the second end of the third control arm 21 is adapted to be pivotally coupled to the axle 1 of the vehicle. With regard to claim 20, the torsional member is pivotable with respect to the first and second control arms in a substantially horizontal direction.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudding et al in view of Platner (6,607,205). Dudding et al disclose a vehicle suspension assembly 24 comprising three control arms 28, 28, 302 and a rigid torsional member 32 coupled to the first control arm 28 along a length of the first control arm 28, and coupled to the second control arm 28 along a length of the second control arm 28. Dudding et al disclose the present invention except for the torsional member being tube-shaped and fixedly coupled to the first and second control arms proximate the first end of each control arm. Platner teaches a vehicle suspension assembly 10 comprising two control arms 22A, 22B and a tube-shaped torsional member 40 fixedly coupled to the first and second control arms 22A, 22B proximate the first end of each control arm. It would have been obvious to one of ordinary skill in the art at the time of the invention to

Art Unit: 3616

apply the teachings of Platner's torsional member to the vehicle suspension assembly of Dudding et al to facilitate better torsional control over the control arms.

14. Claims 1,11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce ('12) in view of Svensson (6,312,006). Pierce ('12) discloses a vehicle suspension assembly comprising a first 24, second 24, and third 22 control arm, a rigid torsion member 60, and a first and second pneumatic suspension bag 38,38 adapted to be positioned between the first and second frame members 12,14 respectively and the axle 44. Pierce ('12) discloses the present invention except for a third pneumatic suspension bag positioned between the first frame member and the axle and a fourth pneumatic suspension bag positioned between the second frame member and the axle. Svensson teaches a vehicle suspension assembly 5 comprising four pneumatic suspension bags 8,8,9,9, the first and third of which are positioned between a first frame member 1 and an axle and the second and fourth of which are positioned between a second frame member 2 and the axle. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the teaching of Svensson of a third and a fourth pneumatic suspension bag to the vehicle suspension assembly of Pierce ('12) to allow better dampening of a rough surface over which the vehicle would travel.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce ('12) in view of Mair (6,409,280). Pierce ('12) discloses a vehicle suspension assembly comprising three control arms 24,24,22 and a rigid torsion member 60 coupled to the first and second control arms 24,24. Pierce ('12) discloses the present invention except

Art Unit: 3616

for the torsional member including a first flanged end and a second flanged end, and the first flanged end being fixedly coupled to the first control arm via at least one bolt extending through at least one aperture in the first flanged end and at least one aperture in the first control arm, and the second flanged end being fixedly coupled to the second control arm via at least one bolt extending through at least one aperture in the second flanged end and at least one aperture in the second control arm. Mair teaches truck and trailer hub comprising an axle with a flanged end 20 that is fixedly coupled to a wheel assembly via a plurality of bolts 21 extending through corresponding apertures in the flange and wheel assembly. This is a commonly known means of coupling one object to another. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Mair of the flanged tube connection to the two ends of the tube-shaped torsion member to create more secure and rigid attachments of the torsion member to the control arms.

16. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pierce ('12) in view of Bell (1,984,565). Pierce ('12) discloses the present invention except for the first and the second control arms 24,24 being substantially L-shaped defining an elbow along the length of each of the control arms, and on the elbow of which the torsion bar is connected. Bell teaches a vehicle wheel suspension assembly with L-shaped control arms 31 on which a torsion bar 29 is connected to the elbow. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the teaching of Bell of L-shaped control arms to the vehicle suspension assembly of Pierce ('12) and to have coupled the torsion bar to the

Art Unit: 3616

elbows of the first and second control arms to allow for the torsion member to be coupled to the control arm at a spot other than the connecting point between the control arm and the vehicle frame member while still being connected to the end of the control arm.

17. Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Csordas et al in view of Goby (2,823,927). Csordas et al disclose a vehicle suspension assembly comprising three control arms 4,4,21 and a rigid torsional member 27. The first ends of the control arms of Csordas et al, however, are not substantially fork-shaped, as is claimed by claim 17. Goby teaches a vehicle suspension system 1 comprising at least one control arm 4, the end of which is fork-shaped and attached to the vehicle's axle 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Goby's fork-shaped control arm to the vehicle suspension assembly of Csordas et al to reduce friction between the axle and the control arm.

Allowable Subject Matter

18. Claims 27 and 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Masser (3,140,880), Pierce (6,328,322), and Benson (2,941,817)

Art Unit: 3616


all disclose vehicle suspension assemblies comprising multiple control arms, torsional members, and suspension air bags. Muller (3,220,502) discloses a vehicle suspension assembly in which the first and second control arms are L-shaped.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Wilhelm whose telephone number is 571-272-6980. The examiner can normally be reached on 9:00 AM to 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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